

REACTIVITY CONTROL SYSTEMS

3/4.1.3 CONTROL RODS

CONTROL ROD OPERABILITY

LIMITING CONDITION FOR OPERATION

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3.1.3.1 All control rods shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

- a. With one control inoperable due to being immovable, as a result of excessive friction or mechanical interference, or known to be untrippable:
  1. Within one hour:
    - a) Verify that the inoperable control rod, if withdrawn, is separated from all other inoperable control rods by at least two control cells in all directions.
    - b) Disarm the associated directional control valves hydraulically by closing the insert and withdraw isolation valves.
  2. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.
  3. Restore the inoperable control rod to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.
- b. With one or more control rods inoperable for causes other than addressed in ACTION a, above:
  1. If the inoperable control rod(s) is withdrawn, within one hour:
    - a) Verify that the inoperable withdrawn control rod(s) is separated from all other inoperable control rods by at least two control cells in all directions, and
    - b) Demonstrate the insertion capability of the inoperable withdrawn control rod(s) by inserting the control rod(s) at least one notch by drive water pressure within the normal operating range\*, or
    - c) Fully insert the inoperable withdrawn control rod(s) and disarm the associated directional control valves either:
      - 1) Electrically, or
      - 2) Hydraulically by closing the drive water and exhaust water isolation valves.

\*The inoperable control rod may then be withdrawn to a position no further withdrawn than its position when found to be inoperable.

## REACTIVITY CONTROL SYSTEMS

### LIMITING CONDITION FOR OPERATION (Continued)

#### ACTION: (Continued)

2. If the inoperable control rod(s) is inserted:
  - a) Within one hour disarm the associated directional control valves either:
    - 1) Electrically, or
    - 2) Hydraulically by closing the drive water and exhaust water isolation valves.
  - b) Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.
- c. With more than 8 control rods inoperable, be in at least HOT SHUTDOWN within 12 hours.

#### SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The scram discharge volume drain and vent valves shall be demonstrated OPERABLE at least once per 31 days by:\*

- a. Verifying each valve to be open.
- b. Cycling each valve at least one complete cycle of full travel.

4.1.3.1.2 All withdrawn control rods not required to have their directional control valves disarmed electrically or hydraulically shall be demonstrated OPERABLE by moving each control rod at least one notch:

- a. At least once per 7 days when above the preset power level of the RWM and RSCS, and
- b. At least once per 24 hours when above the preset power level of the RWM and RSCS and any control rod is immovable as a result of excessive friction or mechanical interference.

4.1.3.1.3 All withdrawn control rods shall be determined OPERABLE by demonstrating the scram discharge volume drain and vent valves OPERABLE when control rods are scram tested per Specification 4.1.3.2, by verifying that the drain and vent valves:

- a. Close within 30 seconds after receipt of a signal for control rods to scram, and
- b. Open when the scram signal is reset or the scram discharge volume trip is bypassed.

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\*These valves may be closed intermittently for testing under administrative control.

### 3/4.1.3 CONTROL RODS

#### CONTROL ROD OPERABILITY

#### LIMITING CONDITION FOR OPERATION

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3.1.3.1 All control rods shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

- a. With one control rod inoperable due to being immovable, as a result of excessive friction or mechanical interference, or known to be untrippable:
  1. Within one hour:
    - a) Verify that the inoperable control rod, if withdrawn, is separated from all other inoperable control rods by at least two control cells in all directions.
    - b) Disarm the associated directional control valves hydraulically by closing the insert and withdraw isolation valves.
  2. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.
  3. Restore the inoperable control rod to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.
- b. With one or more control rods inoperable for causes other than addressed in ACTION a, above:
  1. If the inoperable control rod(s) is withdrawn, within one hour:
    - a) Verify that the inoperable withdrawn control rod(s) is separated from all other inoperable control rods by at least two control cells in all directions, and
    - b) Demonstrate the insertion capability of the inoperable withdrawn control rod(s) by inserting the control rod(s) at least one notch by drive water pressure within the normal operating range\*, or
    - c) Fully insert the inoperable withdrawn control rod(s) and disarm the associated directional control valves either:
      - 1) Electrically, or
      - 2) Hydraulically by closing the drive water and exhaust water isolation valves.

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\*The inoperable control rod may then be withdrawn to a position no further withdrawn than its position when found to be inoperable.

REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

2. If the inoperable control rod(s) is inserted:
  - a) Within one hour disarm the associated directional control valves either:
    - 1) Electrically, or
    - 2) Hydraulically by closing the drive water and exhaust water isolation valves.
  - b) Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.
- c. With more than 8 control rods inoperable, be in at least HOT SHUTDOWN within 12 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The scram discharge volume drain and vent valves shall be demonstrated OPERABLE at least once per 31 days by:\*

- a. Verifying each valve to be open.
- b. Cycling each valve at least one complete cycle of full travel.

4.1.3.1.2 All withdrawn control rods not required to have their directional control valves disarmed electrically or hydraulically shall be demonstrated OPERABLE by moving each control rod at least one notch:

- a. At least once per 7 days when above the preset power level of the RWM, and RSCS, and
- b. At least once per 24 hours when above the preset power level of the RWM and RSCS and any control rod is immovable as a result of excessive friction or mechanical interference.

4.1.3.1.3 All withdrawn control rods shall be determined OPERABLE by demonstrating the scram discharge volume drain and vent valves OPERABLE, when control rods are scram tested per Specification 4.1.3.2, by verifying that the drain and vent valves:

- a. Close within 30 seconds after receipt of a signal for control rods to scram, and
- b. Open when the scram signal is reset or the scram discharge volume trip is bypassed.

\*These valves may be closed intermittently for testing under administrative control.